

acuto petiolato, racemo elongato flexuoso multifloro, flore cylindraceo basi gibboso, sepalis lateralibus subrotundis semiconnatis dorsali ovato acuminato brevior.

Popayan (Hartweg).

A charming plant. Flowers an inch and a half long, scarlet, arranged in a raceme of from four to eleven flowers.

37. *MASDEVALLIA rosea*; folio lanceolato trinervi longe petiolato scapo longiore v. brevior, flore cylindraceo tubo limbo æquali, sepalis lateralibus semiconnatis dimidiatis setaceo-acuminatis dorsali e basi triangulari setaceo æquali.

Loxa (Hartweg).

Flowers pink, 2 inches long, very showy.

38. *MASDEVALLIA Melagris*; foliis oblongo-lanceolatis acutis longe petiolatis trinerviis scapo unifloro brevioribus, sepalis oblongis abrupte in setam ipsis duplo longiorem productis.

Bogota (Hartweg).

The upper sepal banded with violet; the lateral ones smaller, apparently without bands, but stained with rose-colour, 4 lines long below their bristle. Leaves 3-toothed, about 2 inches long. Flower-stalk the same length.

39. *MASDEVALLIA levis*; foliis oblongo-lanceolatis acutis trinerviis in petiolum ipsis æqualem angustatis, scapo foliis brevior, sepalis campanulatis antice infractis acuminatis lateralibus intus pubescentibus, petalis oblongis truncatis hinc crassissimis, labello oblongo apice rotundato lævi.

Popayan (Hartweg).

Flowers apparently purple.

40. *MASDEVALLIA coriacea*; foliis lineari-oblongis in petiolum sensim angustatis coriaceis marginatis mucronatis scapi longitudine, sepalis acuminatis obtusis intus pubescentibus subringentibus, petalis obovato-lanceolatis, labello oblongo unguiculato apice rotundato intra apicem glanduloso scabro.

Bogota (Hartweg).

The flowers, which are yellow and an inch and a half long, correspond with Humboldt and Bonpland's figure of *M. uniflora*; but the leaves are quite different. I suspect that figure to have been made up with the flowers of this *M. coriacea* and the leaves of *M. levis*.

XXXIV.—On the *Animal of Spirula*. By J. E. GRAY, Esq., F.R.S.

[With a Plate.]

To the Editors of the *Annals of Natural History*.

GENTLEMEN,

MR. CUMING has kindly placed in my hands for examination and description the animal of the genus *Spirula* which he has just procured from Mr. P. Earl.

I need scarcely make any other remark on the great interest of this animal, than to observe that there is every reason to believe that it is the nearest recent ally of the *Ammonites* so abundant and so numerous in kinds found in the different fossiliferous strata.

The animal of this genus has only hitherto been known from a figure in the Atlas of Peron and Lesueur, 'Voyages,' t. 30. f. 4, copied in Blainv. 'Man. Mol.' t. 4. f. 1, and in Rang. 'Man. Moll.' t. 1. f. 4. A very slight sketch of it is engraved in the 'Encyclopédie Méthodique,' t. 465. f. 5, from a drawing made by Lamarck with chalk to illustrate his lectures, and from a shell with part of the skin of the mantle attached to it, which was found by Cranch and brought home from the Congo expedition.

Lamarck's figure above-mentioned gives a better general idea of the animal than was expected. Peron and Lesueur's figure on the other hand erroneously represents the animal as having ten arms of unequal length like the Sea-spiders (*Octopus*); probably in his specimens the long arms had been broken off, as in the one brought home by Mr. Earl, and the peduncles of these arms were mistaken for short arms. Cranch's specimen was so imperfect that it only showed that the skin was like that of other cuttle-fish, and it appears to have an opening at the hinder extremity of the body not found in cuttle-fish which could not be understood, but which is explained by Mr. Cuming's specimen.

The long arms unfortunately have lost their terminal club.

The shorter arms are triangular, gradually tapering, flattish, rounded, and without any fin-like edge behind or on the hinder edges. Their inner surface is covered with numerous equidistant, very small, slightly pedicelled, circular *acetabula* or suckers, strengthened with an entire or very minutely denticulated horny ring, placed in about six longitudinal series, and diminishing in size as the arms become attenuated. They are equidistant, except the two lower or ventral pair, which are separated by a broad shallow groove on the lower side of the head; the lower pair on each side are united together by a short membrane on the inner and outer side, which together form a short sheath round the base of the pedicel of the longer arm.

The animal has all the general external characters of the cuttle-fish; that is to say, it has a large distinct head with eyes on each side, eight short conical arms with series of small discs on the inner side, two long arms with elongated peduncles, and a bag-like mantle with a process in the middle above, and one on each side of the anal tube below; but it differs from the cuttle-fish in being entirely destitute of any fins, being rather compressed behind, and showing in the specimen under examination a part of the whorls of the shell above and below; but from the ragged edges

of the skin it appears as if this shell was covered with a skin when the animal is alive, and that the exposure of the surface of the shell has only been caused by the contraction of the animal, and especially of the skin over the shell, from the animal having been placed in very strong spirits when it was first caught. The shell is placed symmetrically, the larger part being on the hinder part of centre of the back and the smaller whorls below on the hinder part of a line drawn down the centre of the lower or anal surface of the mantle; the extremity of the body behind the shell is rounded and covered with a large, round, rather thick gland with a circular central cavity, and the line between the gland and the mantle is covered with sandy particles probably attached to this place by the secretion of the gland, and these particles are most abundant on the side near the skin covering the shell.

In this specimen, which has been preserved in spirits, the head and arms are reddish with a multitude of minute rusty spots; the mantle is nearly uniform pale yellowish, and the gland at the end of the body is uniform reddish brown. It is to be observed that the shell in this animal is placed on the animal in the normal position, that is, on the dorsal surface of the body, with the spire bent towards the ventral sides, as in almost all other Mollusca but the *Nautilus* and the *Patella*.

The mantle is free from the body on all sides at its oral edge, and without any cartilaginous ridges; this edge is formed into a point on the centre of the dorsal aspect, and into two mesial processes, one situated on each side of the anal funnel on the ventral side; the funnel is quite free from the mantle.

The part of the shell which is exposed is covered with minute rugosities and indistinct reticulations, somewhat like the surface of a cuttle-fish bone, as figured in 'Ann. Sci. Nat.' 2nd series, xvii. t. 11. f. 9, 10.

I am informed by M. Clausen that he had several specimens of this animal alive, and kept them some time in a vessel filled with sea-water, and that they had the power of ascending and descending at pleasure.

The *Spirula* will constitute a group of the Decapodous Cephalopods, forming a passage to the *Octopodidae*; for, like the latter, they are entirely destitute of any dorsal fins, and well-characterized by the presence of a regularly chambered internal shell, furnished with an internal marginal siphon.

The examination of this animal confirms me in the opinion which I expressed in the 'Synopsis of the British Museum' (1840, p. 149), that the *Ammonites*, from their texture and the small size of the last chamber, are internal shells, and should be arranged with the Decapodous Cephalopods, being chiefly distinguished from the *Spirula* by the siphon being always on the dorsal mar-

gin of the whorls, and the septa being foliated on the edge. I am aware that this opinion is not in conformity with the ideas of many zoologists and comparative anatomists, for Mr. Owen, in the last arrangement of these animals (Todd. Ency. Comp. Anat.), though he places the *Spirula* with the *Dibranchiate* Cephalopods, places the *Ammonites* with *Tetrabranchiate* next to *Nautilus*, with the following character, "animal unknown, presumed to resemble the *Nautilus*."

It is very desirable that other specimens of this animal should be preserved and brought to Europe, that we may have the opportunity of examining its internal structure, for I can fully sympathize with Mr. Cuming in not wishing to have the single specimen which he possesses in any way injured or cut.

EXPLANATION OF PLATE XV.

Fig. 1. The back of the animal.

Fig. 2. The ventral surface with the anal tube.

Fig. 3. The side, showing the shell, the dorsal and ventral process of the mantle and the anal tube.

Fig. 4. Extremity of the body, with the gland and its central aperture as contracted in spirits.

Fig. 5. The figure copied from Lamarck's sketch, 'Enc. Méthodique.'

Fig. 6. Animal and shell, copied from De Blainville's 'Manuel.'

Fig. 7. The figure copied from Peron and Lesueur's 'Atlas.'

XXXV.—On *Cyanocitta*, a proposed new genus of Garrulinæ, and on *C. superciliosa*, a new species of Blue Jay, hitherto confounded with *C. ultramarina*, Bonap. By H. E. STRICKLAND, M.A.

I LATELY received from Prof. Brandt of St. Petersburg a bird from California, labelled "*Corvus ultramarinus*, Audub., pl. 362. fig. 3," but which was evidently distinct from the true *C. ultramarinus* of the Prince of Canino. The latter species is found in Mexico, and has received the synonymous names of *Garrulus sordidus*, Swainson, and *Pica Sieberi*, Wagler. It is nearly uniform blue above without any superciliary mark, and cinereous below, becoming whitish on the belly and vent. In the bird from California on the contrary the dorsal feathers are cinereous brown; above the eye and ear-coverts is a narrow row of white dots; the cheeks are blackish with a bluish tinge on the lower part; the chin and throat white, faintly streaked with gray, the sides of each feather being margined with the latter colour. The blue of the crown and nape descends on each side and forms a collar around the white of the throat. The rest of the lower parts are very light brownish ash-colour. The wings and tail are blue as in *C. ultramarina*, with which it agrees in general form, except that the wings are much shorter. Total length 11 inches; beak